Executive Summary

California law requires urban areas to develop and update a "congestion management program" or CMP—that is, a plan that describes the strategies to address congestion problems. In Alameda County, the Alameda County Congestion Management Agency (CMA) prepares the CMP. The CMA works cooperatively with the Metropolitan Transportation Commission (MTC), transit agencies, local governments, the California Department of Transportation (Caltrans) and the Bay Area Air Quality Management District (BAAQMD).

The CMP law places considerable authority with the CMAs. Appendix A contains the full text of the pertinent sections of state law. The agencies are required to oversee how local governments meet the requirements of the CMP, for example. The legislation also forges a new relationship between local government and Caltrans by requiring new highway projects in urban areas to be included in a CMP if they are going to be part of the State Transportation Improvement Program (STIP). This means that funding of highway projects is now, in part, controlled by local government in the form of the CMAs. With this authority comes the responsibility to recognize federal and state funding limitations and to work with Caltrans and MTC to formulate cost-effective projects.

The CMP is designed to meet the challenges of the law. Furthermore, the CMA has developed working relationships with all levels of government as well as the private sector. The CMA is prepared to demonstrate that local governmental agencies—working together—can solve regional problems.

THE TRANSPORTATION SYSTEM

The CMA must identify what is included in the system that is being monitored and improved (Chapter 2). For the purposes of the CMP, two different systems are used: the designated CMP roadway network (CMP-network); and the broader Metropolitan Transportation System (MTS). The CMP-network is a subset of the MTS. For purposes of the CMP, the former is used to monitor performance in relation to established level of service (LOS) standards. The latter is used in the CMA's Land Use Analysis Program.

CMP Network

The CMP-network includes state highways and principal arterials that meet all minimum criteria (carry 30,000 vehicles per day; have four or more lanes; is a major cross-town connector; and connects at both ends to another CMP route or major activity center). The result is a system of roadways that carry at least

70 percent of the vehicle miles traveled countywide and contains 23 miles of roadways. Of this total, 134 miles (58 percent) are interstate freeways, 73 miles (31 percent) are state highways (conventional highways), and 27 miles (11 percent) are city/county arterials.

In order to be found in conformance with the CMP, local jurisdictions must submit a list of potential CMP-designated routes based on spring 2011 24-hour counts, by June 30, 2011.

MTS System

The MTS is a regionally designated system that includes the entire CMP-network, as well as major arterials, transit services, rail, maritime ports, airports and transfer hubs that are critical to the region's movement of people and freight.

LOS STANDARDS

To provide a method for measuring congestion, the CMA uses LOS standards as defined in the 1985 Highway Capacity Manual (HCM), nationally accepted guidelines published by the Transportation Research Board (Chapter 3). LOS definitions describe traffic conditions in terms of speed and travel time, volume and capacity, freedom to maneuver, traffic interruptions, comfort and convenience and safety. LOS is represented by letter designations, ranging from A to F. LOS A represents the best operating conditions and LOS F the worst.

The purpose of these standards is to provide a quantitative tool to analyze the effects of land use changes and to monitor one system performance measure (i.e., congestion). The CMA is required to determine how well local governments meet the standards in the CMP, including how well they meet LOS standards.

The CMP requires a LOS standard of E. All CMP routes are required to maintain this standard except for those areas designated as "infill opportunity zones."

The CMA conducts a LOS monitoring study every two years. The next study will be done in spring 2008. The agency also has completed studies on nine high-priority corridors.

At present, the CMA is monitoring the CMP network by contracting biennially with a consultant to collect speed data. The CMA analyzes the data and prepares the results. If a local government or Caltrans assumes responsibility for monitoring roadways in the CMP-network within its jurisdiction, it will be required to do the following:

- biennially monitor the LOS on the designated system and report to the CMA by June 15 of each year relative to conformance with the adopted standards.

PERFORMANCE ELEMENT

The CMA developed performance measures to evaluate how highways and roads function, as well as the frequency, routing and coordination of transit services. Performance measures are intended to support mobility, air quality, land use, and economic objectives in the CMP (Chapter 4).

Combined with LOS standards, the Performance Element provides a basis for evaluating whether the transportation system is achieving the broad mobility goals in the CMP. These include developing the Capital Improvement Program, analyzing land use impacts and preparing deficiency plans to address problems. For the 2007 CMP, implementation of the Performance Element will help the CMA prioritize projects for funding and developing management and operations strategies.

Below is a list of performance measures used in the CMP, along with the goals they help evaluate.

PERFORMANCE MEASURE	LONG-TERM GOAL
• Average highway speeds	• Improve mobility, air quality
• Travel time on transit, highways and high-occupancy vehicle lanes	• Improve mobility • Increase transit use • Improve air quality
• Duration of traffic congestion	• Enhance economic vitality • Expedite freight movement
• Roadway maintenance	• Ensure serviceable operation of existing facilities
• Roadway accidents on freeways	• Improve mobility • Ensure serviceable operation of existing facilities
• Completion of countywide bike plan	• Improve mobility, air quality
• Transit routing	• Improve transit access • Increase transit use
• Transit frequency	• Improve transit access • Increase transit use
• Coordination of transit service	• Improve transit access • Increase transit use
• Transit ridership	• Increase transit use
• Transit vehicle maintenance	• Ensure serviceable operation of existing facilities

Using these measures, the CMA prepares an annual transportation Performance Report for review by local agencies and transit operators prior to publication. To minimize cost, the CMA relies on established data collection processes and regularly published reports for data. A list of established data collection efforts, by agency, follows.

Cities and County

- Countywide Bicycle Plan (Cities and County Public Works Department and CMA)

Transit Agencies

- Service Schedules and On-Time Performance
- Transit Ridership Routing (percentage of major centers served within 1/4-mile of a transit stop)
- Frequency (number of lines operating at each frequency level)
- Service Coordination (number of transfer centers)
- Average Time Between Off-Loads (BART)
- Miles Between Mechanical Road Calls (AC Transit, LAVTA and Union City Transit)Mean Time Between Service Delays (BART and ACE)

MTC

- Roadway Maintenance Needs
- Pavement Management System data for the MTS
- Freeway Speed Runs and Duration of Freeway Congestion (when performed by MTC)

Caltrans

- Freeway Speed Runs and Duration of Freeway Congestion (when performed by Caltrans)
- Accident Rates on State Freeways
- Highways in need of rehabilitation

CMA

- Roadway Speeds on CMP roads, except freeways
- Travel Times for Origin-Destination pairs

Local agencies are encouraged to provide data to MTC or to maintain their own database of maintenance needs on the MTS. However, there is no compliance requirement for local agencies or transit operators related to the Performance Element.

TRAVEL-DEMAND MANAGEMENT ELEMENT

While much of the CMP focuses on measurement and evaluation, an important part is the recommended use of Travel-Demand Management (TDM) (Chapter 5). These are designed to reduce the need for new highway facilities over the long term and to make the most efficient use of existing facilities. The TDM Element also incorporates strategies to integrate air quality planning requirements with transportation planning and programming. Funding generally comes from the Transportation Fund for Clean Air (from fees on motor vehicle registration) and from the federal Surface Transportation Program and Congestion Mitigation and Air Quality Program. Taken together, the program represents a fiscally realistic program that would effectively complement the CMA's overall CMP.

A balanced program requires actions that local jurisdictions, the CMA, MTC, BAAQMD, Caltrans and local transit agencies would undertake. As required by state law, it promotes alternative transportation methods (carpools, vanpools, transit, bicycles, park-and-ride lots, etc.), promotes improvements in the jobs-housing balance and SMART Growth, considers parking cash-out programs (paying employees who do not use parking) and promotes other strategies such as flextime and telecommuting.

The TDM Element includes four programs:

- The **Required Program** requires local jurisdictions to adopt and implement guidelines for site design that enhance transit, pedestrian and bicycle access.
- The **Countywide Program** includes actions by the CMA to support efforts of local jurisdictions, such as the parking cash-out program, the Guaranteed Ride Home program and support of telecommuting.
- The **Regional Program** includes actions by MTC, BAAQMD and Caltrans to meet areawide needs. It focuses primarily on financial support for those activities that ensure coordinated transit, high-occupancy vehicle use, development and/or maintenance of park-and-ride lots, implementation of ramp metering and arterial, compliance with the American with Disabilities Act and bicycle and pedestrian improvements.
- Recognizing that the private sector also has a role in TDM, elements of the **Comprehensive Program** include those actions that employers may take to promote and encourage alternative modes of travel.

To be found in conformance with this element of the CMP, local jurisdictions must adopt and implement the Required Program by September 1 of each year.

LAND USE ANALYSIS PROGRAM

The CMP includes a program to analyze the impacts of land use decisions made by local jurisdictions on the regional transportation systems (Chapter 6). The program estimates costs associated with mitigating those impacts, as well as providing credits for local public and private contributions to improving regional transportation systems. The intent of the Land Use Analysis Program is to:

- Better tie together local land use and regional transportation facility decisions;
- Better assess the impacts of development in one community on another community; and
- Promote information sharing between local governments when the decisions made by one jurisdiction will have an impact on another.

The Land Use Analysis Program is a process designed to improve decisions about land use developments and the investment of public funds on transportation infrastructure. To work best, the CMA is involved at the very early stages of the land development process. The purpose of the CMA review is to assure that regional impacts are assessed, that appropriate mitigations are identified and that an overall program of mitigations can be implemented.

The CMA acts as a resource to local governments in analyzing the impacts of proposed land use changes on regional transportation systems. This includes making travel-demand models available to use in forecasting the impact of proposed general plan amendments (GPA) and other large-scale developments [if the local jurisdiction publishes a notice of preparation (NOP) for an environmental impact report (EIR)]). CMA staff could also be involved in discussing impact assessment approaches and impacts on the MTS.

Although land use remains the purview of local governments, the CMA can apply sanctions if local agencies do not comply with the requirements of the law. Local jurisdictions will have the following responsibilities regarding the analysis of transportation impacts of land use decisions.

- Modeling (using the most recent CMA-certified travel-demand model) all GPA and large-scale projects that require an EIR that meet the 100 p.m. peak-hour threshold. Results of the model shall be analyzed for impacts on the MTS and shall be incorporated in the environmental document.
- Forward to the CMA all NOP, draft EIR/statements, final EIR/statements and final disposition of the GPA/development requests.
- Work with the CMA mitigating development impacts on the MTS.
- Biennially provide an update (prepared by the jurisdiction's planning department) of projected land uses using the Association of Bay Area Government's (ABAG) most recent forecast for a near-term and far-term horizon year. This information will be provided in a format compatible with the countywide travel model.

The CMA has embarked on developing "SMART Growth Transit-Oriented Development" strategies to better integrate transportation and land use. The effort, funded by MTC, was undertaken in collaboration with staff from local planning departments, transit operators, MTC, ABAG and Caltrans. Upon completion, the results will be amended into the CMP.

In addition, each local jurisdiction must demonstrate to the CMA that the Land Use Analysis Program is being carried out by September 1 of each year as part of the annual conformity process.

CAPITAL IMPROVEMENT PROGRAM

The five-year CIP reflects the CMA's effort to maintain or improve the performance of the multimodal transportation system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land Use Analysis Program (Chapter 7).

Per federal requirements, it considers methods to improve the existing system, such as traffic operations systems, arterial signal timing, parking management, transit transfer coordination and transit marketing programs. Projects selected for the CIP also are consistent with the assumptions, goals, policies, actions and projects identified in the regional transportation plan (*Transportation 2030*), MTC's basic statement of Bay Area transportation policy.

The 2007 CIP covers fiscal year 2007/08 to 20012/13 and is comprised of:

- Major capital projects and transit rehabilitation projects programmed in the 2008 STIP and the Safe, Accountable, Flexible and Efficient Transportation Equity Act (SAFETEA); and
- Other major highway, transit and local projects intended to maintain or improve the performance of the CMP-network.

The projects in the CIP are linked to the vision and projects presented in the 2004 *Countywide Transportation Plan*, either as a specific capital project or from funding set aside to cover categories of projects. Such projects can include maintaining and rehabilitating local streets and roads, transit capital replacement, bicycle and pedestrian improvements and operational improvements.

In order to be conformance with the CMP, local jurisdictions and project sponsors must, by February 1 of each odd-numbered year, submit to the CMA a list of projects intended to maintain or improve the LOS on the CMP-network and to meet transit performance standards.

MONITORING, CONFORMANCE AND DEFICIENCY PLANS

The CMA is responsible for annually monitoring the implementation of four elements of the CMP. Local agencies are usually responsible for maintaining LOS standards, adopting travel-demand requirements, implementing land use analysis programs and implementing TDM measures. The CMA, however,

ensures that they are in "conformance" with CMP requirements. To meet the requirements of the CMP, the following must occur.

Local jurisdictions have two TDM requirements: adoption and implementation of site design guidelines to enhance transit/pedestrian/bicycle access; and implementation of capital improvements that contribute to congestion management and emissions reduction.

The CMA is required to develop a program for implementation by local agencies. This program will analyze the impacts and determine mitigation costs of land use decisions on the regional system (Chapter 8). Local jurisdictions remain responsible for approving, disallowing, or altering projects and land use decisions. The program must be able to determine land development impacts on the MTS and formulate appropriate mitigation measures commensurate with the magnitude of the expected impacts.

The CMA is required to prepare and biennially update a CIP aimed at maintaining or improving transportation service levels. Each city, the county, transit operators and Caltrans will provide input to these biennial updates.

If LOS standards are not met, a deficiency plan must be developed to achieve the adopted LOS standards at the deficient segment or intersection, or to improve the LOS and contribute to significant air quality improvements.

To determine conformance, CMA compares the monitoring information provided by local governments to the CMP requirements. If a local jurisdiction is found to be in non-conformance, upon notification from the CMA, the local jurisdiction has 90 days to remedy the area(s) of non-conformance. Failure to address problems could adversely affect the jurisdiction's eligibility for future funds.

Responsibilities for Deficiency Plans

Local governments are responsible for preparing and adopting deficiency plans—proposed methods for bringing LOS standards up to par. However, they will need to consult with the CMA, Caltrans, local transit providers and BAAQMD. Local public-interest groups and members of the private sector may also have an interest in developing deficiency plans.

During the process of developing the plan, the local agency will need to consider whether it is possible to make physical improvements to the deficient segment. It may not be possible to do so for a number of reasons, including cost, availability of real estate, public opposition and air quality plan conflicts.

However, in developing the deficiency plan, both local and system alternatives must be considered and described. Local governments and the CMA should consider the impact of the proposed deficiency plan on the CMP system. An action plan to implement the chosen alternative must also be provided. The selection of either alternative is subject to approval by the CMA, which must find the action plan in the interest of the public's health, safety and welfare.

DATABASE AND TRAVEL MODEL

The CMA has developed a uniform land use database for use in a countywide travel model (Chapter 9). The purpose of the database and travel model requirement is to bring to the congestion management decision-making process a uniform technical basis for analysis. This includes consideration of the benefits of transit service and TDM programs, as well as projects that improve congestion on the CMP-network. The modeling requirement is also intended to assist local agencies in assessing the impacts of new development on the transportation system.

The database developed for use with the countywide travel model is based on data summarized in ABAG's *Projections 2005* report. Projections of socioeconomic variables were made for the traffic analysis zones defined for Alameda County. By aggregating the projections made for each zone, the CMA produced projections of socioeconomic characteristics for unincorporated areas of the county, the 14 cities and for the four planning areas:

- Planning Area 1—cities of Albany, Berkeley, Emeryville, Oakland, Alameda and Piedmont;
- Planning Area 2—cities of San Leandro, Hayward, and the unincorporated areas of Castro Valley, Ashland and San Lorenzo;
- Planning Area 3—cities of Union City, Newark and Fremont; and
- Planning Area 4—cities of Pleasanton, Dublin, Livermore and the unincorporated areas of east County.

The CMA released an updated new countywide travel demand model in March 2007. The updated model is expanded from the MTC's Regional Transportation Model (BAYCAST model) of 2005, and provides more detailed traffic analysis zones, road and transit networks and other details within Alameda County.

CONCLUSIONS AND IMPLEMENTATION ISSUES

The CMP has several interrelated elements intended to foster better coordination among decisions about land development, transportation and air quality. Several conclusions can be reached about the CMP relative to the requirements of law and its purpose and intent (Chapter 10). Specifically, the CMP:

1. Contributes to maintaining or improving transportation service levels.
2. Conforms to MTC's criteria for consistency with *Transportation 2030*.
3. Provides a travel model whose specifications and output are consistent with MTC's regional model.
4. Is consistent with MTC's Transportation Control Measures Plan.
5. Specifies a method for estimating roadway LOS which is consistent with state law.
6. Identifies candidate projects for the STIP and federal Transportation Improvement Program.

7. Has been developed in cooperation with the cities, the County of Alameda, transit operators, the BAAQMD, MTC, adjacent counties, Caltrans and other interested parties.
8. Provides a forward-looking approach to dealing with the transportation impacts of local land use decisions.

During the development and update of the CMP for Alameda County, several issues have been uncovered which will need further action by the CMA.

- Lack of funding to support the CMP, including adequate capital resources and CMA/local government funding.
- Limited ability of the CMA to influence transportation investment when most transportation funding programs are beyond the purview of the CMP legislation.
- Identify responsible agency for monitoring and maintenance of LOS on the state highway system.
- Transportation revenue shortfalls.
- Continued improvement of the Land Use Analysis Program.
- Update of CMP-network and how to add roadways to the system.
- Congestion pricing strategies

Please refer to the complete CMP for more specific information regarding these issues.